Cuizhen (Susan) Wang
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Curriculum Vitae

EDUCATION

2004 Ph.D., Dept. of Geography, Michigan State University, USA
1999 Ph.D., Institute of Remote Sensing Applications, Chinese Academy of Sciences
1996 M.S., Institute of Remote Sensing Applications, Chinese Academy of Sciences
1993 B.S., Shandong University of Science and Technology, China

EMPLOYMENT

2018-	Professor, Dept. of Geography, University of South Carolina
2013-2017	Associate Professor, Dept. of Geography, University of South Carolina
2010-2013	Associate Professor, Department of Geography, University of Missouri
2004-2010	Assistant Professor, Department of Geography, University of Missouri
1996-1999	Research Associate, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

RESEARCH EXPERTISE

Dr. Wang's primary research areas are bio-environmental remote sensing and GIScience. Specific experiences include optical/radar remote sensing, satellite time series, image-based deep learning, small Unmanned Aircraft Systems (sUAS), and a wide spectrum of environmental applications such as fire/drought stress; marsh dieback; 3D landscape mapping. Dr. Wang's research is embraced in Big Earth Data that harmonizes all kinds of Earth observations to promote environmental health and sustainability.

TEACHING INTERESTS

Digital Earth
Aerial Photography
Remote Sensing
Digital Image Processing
Image-based Geospatial Modeling and Applications

HONORS AND AWARDS

2019 Global Carolina Faculty Travel Award
2015 Subject Matter Expert, U.S. Geospatial Intelligence Foundation (USGIF)
2015 USC Featured Scholar, November

FUNDED GRANTS

External grants:

sUAS and 3D Marsh Modeling to Support NASA's New Satellite (SWOT) for Coastal Topography and Marsh Sustainability of South Carolina, **Principal Investigator,** SC NASA EPSCoR, 5/14/2022 – 5/13/2023, $34,963,

Creating a GIS-based Sitting Tool for Mariculture Site Selection, **Co-PI** (PI: Dr. Li), SC Sea Grant, $34,993, 4//8/2022 – 1/10/2023.

Faculty for the Future Fellowship Program, Assessment of riparian Corridor attributes in an urban watershed., **Principle Investigator** (visiting scholar: Dr. Olusola Adetoro). $89,000. Schlumberger Foundation. 1/15/2020-12/15/2021.

Satellite observations of marsh dieback events and potential environmental influences along coastal SC, 2000-2017. $24,981. **Principal Investigator**, SC NASA EPSCoR, 2/1/2018-1/31/2019.

Monitoring forest fire and post-fire recovery with synergistic analysis of multi-source remote sensing and ecological modeling. Funded by Natural Science Foundation of China (NSFC), $120,000. **Principal Investigator** (hosted at Harbin Normal University), 1/1/2014-12/31/2017.

Perennial biomass crop establishment and its environmental impacts in the Midwestern United States. **Principal Investigator** (Co-Is: Drs. Felix Fritschi, Ranjith Udawatta, Claire Baffaut, University of Missouri), $461,926. USDA NIFA, 08/2012-06/2016.

Multi-scale satellite remote sensing for salt marsh mapping. **Principal Investigator**, NOAA Sea Grant Consortium at SC -Seed Project, $9,760. 1/2016 – 1/2017.

NSF SBIR: Computing-assisted zoning optimization and service. **Principal Investigator,** Subaward by ZillionInfo LLC/NSF, $72,500. 04/2014-03/2017.

Remote sensing of surface wetness dynamics during the October 2015 South Carolina Flood, Congaree River Watershed. **Consultant**, CRS-Net South Carolina Flood Disaster Assessment Project, Center for Resilience Studies, Northeastern University, $3,500. 6-8/2016.

Response of alpine grasslands to climate change and permafrost retreat in the Tibetan Plateau. Funded by the Key Laboratory of Digital Earth, Chinese Academy of Sciences, China. **Principal Investigator** (hosted at Institute of Remote Sensing and Digital Earth), $8,000. 1/1/2014-12/31/2014.

Spatial and temporal variation of oak species dynamics in Arkansas Boston Mountains: How can management alternatives improve the health of forest Ecosystems with oak decline, Phrase III**. Co-Investigator** (PI: Dr. Hong He, Dept. of Forestry, University of Missouri). USDA Forest Service, Southern Research Station. $121,000. 05/2010-08/2013.

Warm Season vs. Cool Season Grass Delineation: A temporal Trajectory-based remote sensing technique. Missouri Department of Conservation. **Principal Investigator**. $87,073, 07/2009-06/2011.

Internal Grants:

Deep Learning for human settlement mapping with historical aerial photographs since the 1930s: a case study in Charleston, SC. **PI**, College of Arts and Sciences, UofSC, $9,984, 1/1/2022-12/31/2022.

Drone-implemented integration of GIScience, Engineering, and Community Education for Dam Safety Assessment. **PI**, USC Office of the Vice President for Research ASPIRE-II Integration Program. $96,797. 7/1/2019-12/30/2021.

SPARC: A deep learning supported flood mapping framework that integrates remote sensing and social sensing. **PI** (Graduate Student: Xiao Huang), USC Office of the Vice President for Research, $4,996. 5/16/2019-12/30/2020.

Improving Undergraduate Experiential Learning Outcomes in Geospatial Science. **PI** (Co-PI: Mitchell). USC Office of Provost Internal Grant Program – Pedagogy. $19,987. 7/1/2019-6/30/2021. $18,755. (Funded but dismissed for future re-submission)

Rapid flood mapping by enhancing near real-time satellite imagery with real-time gauge and Tweeter data. **PI**. $14,495. USC ASPIRE-I Track VI, 07/01/2018-09/30/2019.

Drone deployment in harmful algal bloom mapping, Lake Wateree, SC. **PI.** CAS Faculty Support Programs – Small Equipment Initiative, USC, $4,754. 1/15-12/31/2019.

Aerial drones for mapping geographic landscapes at fine spatial scales. **Co-PI** (PI: Dr. Michael Hodgson). CAS Faculty Support Programs – Small Equipment Initiative, $19,793. USC, 2/5-12/31/2018.

Satellite/drone image analysis for high-resolution salt marsh mapping on SC Coasts. **PI**, USC A&S Faculty Research Initiative, $5,000. 1/1/2018-12/31/2018.

Drone-based image collection and analysis for vegetation encroachment on dams. **PI** (student – Cole Weber). CAS Undergraduate Research Initiative, $1,000. 1/1/2018-8/31/2018.

Spatiotemporal dynamics of flood Impact by integrating satellite, VGI and social media data: rapid assessment of the October Flood, **Co-PI** (PI: Dr. Zhenlong Li, USC), USC 2015 SC Flood Research Initiative, $18,477. 10/2015 - 08/2016.

Remote Sensing of agricultural water budget with bioenergy land use in the Mississippi River Basin. USC ASPIRE-I Track VI, **PI**, $14,950. 05/2015-08/2016.

Research Engagement Collaborative (REC) Grant, **Contributor and discussant,** (PI - Dr. Kirstin Dow), Office of the Provost, USC. $25,000. 01-12/2015.

Mapping woody biomass with aerial LiDAR data. **Principle Investigator**. Urban Safety Center, College of Engineering, University of Missouri. $3,000. 01-05/2013.

Biomass supplies in the US Midwest: an Integrated Geospatial Assessment of Environmental and Economic Impacts. **PI**. Mizzou Advantage, University of Missouri. $49,962. 06/2010-09/2011.

Mapping invasive Sericea Lespedeza with hyperspectral satellite imagery in southwest Missouri. Research Board, University of Missouri. **PI**. (Co-PI: Dr. Harlan L. Palm, Plant Division, University of Missouri). $25,660. 06/2008-05/2009.

PUBLICATIONS

Peer-reviewed journal papers: (* corresponding author; ** advisee as first author)

Li**, H., **C. Wang**, Q. Yu and E. Smith, 2022. Spatiotemporal assessment of potential drivers of salt marsh dieback in the North Inlet-Winyah Bay estuary, South Carolina (1990-2019). *Journal of Environmental Management*, 313, 114907.

Ning, H., Z. Li, **C. Wang**, M.E. Hodgson, X. Huang, and X. Li, 2022. Converting street view images to land cover maps for metric mapping: A case study on sidewalk network extraction for the wheelchair users. Computers, Environment and Urban Systems, 95:101808.

Morgan**, G.R., M. E. Hodgson, **C. Wang**, and S. R. Schill. 2022. Unmanned aerial remote sensing of coastal vegetation: A review. *Annals of GIS*. Doi.org/10.1080/19475683.2022.2026476.

Morgan**, G.R., **C. Wang**, Z. Li, S.R. Schill, and D.R. Morgan. 2022. Deep learning of high-resolution aerial imagery for coastal marsh change detection: a comparative study. *International Journal of Geo-Information*. 11, 100.

Wang, C., A. Wang, D. Guo, H. Li, and S. Zang, 2022. Off-peak NDVI correction to reconstruct Landsat time series for post-fire recovery in high-latitude forests. *International Journal of Applied Earth observations and Geoinformation*. 107,102704.

Wang, C., 2021. At-sensor Radiometric correction of a multispectral camera (RedEdge) for sUAS vegetation mapping. *Sensors*, 21, 8224.

Li**, H., **C. Wang**, Y. Cui, M. Hodgson, 2021. Mapping salt marsh along coastal South Carolina using U-Net. *ISPRS Journal of Photogrammetry and Remote Sensing*. 179:121-132.

Guo**, D., **C. Wang**, S. Zang, J. Hua, Z. Lv, and Y. Lin, 2021. Gap-Filling of 8-day Terra MODIS Daytime Land Surface Temperature in high-latitude cold region with Generalized Additive Models (GAM). *Remote Sensing*, 13, 3667.

Morgan**, G.R., **C. Wang**, and J.T. Morris, 2021. RGB indices and canopy height modeling for mapping tidal marsh from a small unmanned aerial system. *Remote Sensing*, 13, 3406.

Wang, C., I. Sasanakul, and H. Brown, 2021. sUAS remote sensing for closed-canopy tree inventory on earthen dams. *GI_Forum*, 1, 5-12.

Wang, C., G. Morgan, and M. E. Hodgson, 2021. sUAS for 3D tree surveying: comparative experiments on a closed-canopy earthen dam. *Forests*, 12, 659.

Zhang, L., **C. Wang*,** Y. Li, Y. Huang, F. Zhang, T. Pan, 2021. High-latitude snowfall as a sensitive indicator of climate warming: a case study of Heilongjiang Province, China. *Ecological Indicators*. 122, 107249.

Morgan, G., M. E. Hodgson, and **C. Wang**, 2020. Using sUAS-derived point cloud to supplement LiDAR returns for improved canopy height model on earthen dams. *Papers in Applied Geography*, 6(4) 436-448.

Huang, X., **C. Wang***, Z. Li, and H. Ning, 2020. A 100m population grid in the CONUS by disaggregating census data with open-source Microsoft building footprints. *Big Earth Data*, 1-22.

Huang, X., and C. Wang, 2020. Estimates of exposure to the 100-year floods in the conterminous United States using national building footprints. *International Journal of Disaster Risk Reduction*. 50:101731. doi.org/10.1016/j.ijdrr.2020.101731

Sun, Z., S. Yu, H. Guo, **C. Wang**, Z. Zhang, and R. Xu, 2020. Assessing 40 years of spatial dynamics and patterns in megacities along the Belt and Road region using satellite imagery. *International Journal of Digital Earth*, 14(1): 71-87.

Ning, H., Li, Z., **C. Wang**, and L. Yang, 2020. Choosing an appropriate training set size when using existing data to train neural networks for land cover segmentation. *Annals of GIS*, 1-14.

Ning, H., Li, Z., Hodgson, M.E., and **Wang, C**. 2020. Prototyping a Social Media Flooding Screening System Based on Deep Learning. *International Journal of Geo-Information*, 9 (2), 104. doi:10.3390/ijgi9020104

Rice, M., **Wang, C**. and Jensen, R.R., 2020. Introduction to Special Issue: location analytics and sUAS data acquisition technologies. *Papers in Applied Geography*. 6(1), 1-3.

Derakhshan, S., Cutter S.L. and **Wang, C**., 2020. Remote sensing derived indices for tracking urban land surface change in case of earthquake recovery. *Remote Sensing*, 12:895. doi:10.3390/rs12050895

Li**, H., **Wang*, C**., Ellis, J.T., C. Y., Miller, G. and Morris J.T., 2020. Identifying marsh dieback events from Landsat image series (1998-2018) with an Autoencoder in the NIWB estuary, South Carolina. *International Journal of Digital Earth*, 13(12), 1467-1483.

Ning, H., Huang, X., Li, Z. **Wang, C**., and Xiang, D., 2019. Detecting new building construction in urban areas based on images of small unmanned aerial system. *Papers in Applied Geography*. 6(1): 56-71.

Huang**, X., **Wang, C.** and Lu, J. 2019. Understanding the spatiotemporal development of human settlement in hurricane-prone areas on the US Atlantic and Gulf coasts using nighttime remote sensing. *Natural Hazards and Earth System Sciences*, 19:2141-2155.

Huang**, X, Li, Z., **Wang, C**. and Ning, H., 2019. Identifying disaster related social media for rapid response: a visual-textual fused CNN architecture. *International Journal of Digital Earth*, 13(9):1017-1039.

Miller, G.J., Morris, J.T., and **Wang, C.** 2019. Estimating aboveground biomass and its spatial distribution in coastal wetlands utilizing planet multispectral imagery. *Remote Sensing*, 11 (17), 2020; doi:10.3390/rs11172020

Zhang, Y., Zang, S., Sun, L., Yan, B., Yang, T., Yan, W., Meadows E. M., **Wang, C.,** Qi, J., 2019. Characterizing the changing environment of cropland in the Songnen Plain, Northeast China, from 1990 to 2015. J. *Geogr. Sci*., 29(5): 658-674.

Davis, E., **Wang, C**., Dow, K., 2019. Comparing Sentinel-2 MSI and Landsat 8 OLI in Soil Salinity Detection: A Case Study of Agricultural Lands in Coastal North Carolina. *International Journal of Remote Sensing*. 40(16):6134-6153

Li, H., Mao, D., Li, X., Wang, Z. and **Wang, C.**, 2019. Monitoring 40-year lake area changes of the Qaidam Basin, Tibetan Plateau using Landsat time series. *Remote Sensing*, 11:343.

Zhang, L., **Wang, C***., Li, X., Zhang, H., Li, W. and Jiang, L., 2018. Impacts of agricultural expansion (1010s-2010s) on water cycle in the Songnen Plain, Northeast China. *Remote Sensing*, 10, 1108.

Bai, L., **Wang, C.,** Zang, S., Wu, C., Luo, J. and Wu, Y., 2018. Mapping soil alkalinity and salinity in Northern Songnen Plain, China with the HJ-1 hyperspectral imager data and partial least squares regression. *Sensors*, 18, 3855.

Zhong[**], C., **Wang, C**., Li, H., Chen, W. and Hou, Y., 2018. Mapping inter-annual land cover variations automatically based on a novel sample transfer method. *Remote Sensing*, 10, 1457.

Li, H., **Wang, C**., Huang, X., Hug, A. 2018. Spatial Assessment of Water Quality with Urbanization in 20072015, Shanghai, China. *Remote Sensing*, 10, 1024.

Huang[**], X., **Wang, C.**, & Li, Z. 2018. Reconstructing Flood Inundation Probability by Enhancing Near Real-Time Imagery with Real-Time Gauges and Tweets. *IEEE Transactions on Geoscience and Remote Sensing*, 56(8): 4691-4701.

Huang[**], X. **Wang, C.**, Li, Z., and Ning, H. 2018. A visual-textual fused approach to automated tagging of flood-related tweets during a flood event. *International Journal of Digital Earth*, 11:1248-1264. (1st author is PhD advisee)

Kantor, C., Pricope, N., and **Wang, C.** 2018. Discipline based education research (DBER) – a new approach to teaching and learning in Geospatial Intelligence, USGIF *State & Future of GEOINT Report*, 21-25.

Sun, Z., X. Zhao, M. Wu and **C. Wang**, 2018. Extracting urban impervious surface from WorldView-2 and Airborne LiDAR data using 3D Convolutional Neural Networks. *Journal of Indian Society of Remote Sensing*. 47, 401-412.

Wang, C., Li, Z., and Huang, X. 2018. Geospatial assessment of wetness dynamics in the October 2015 SC Flood with remote sensing and social media. *Southeastern Geographer*, 58(2):164-180.

Huang[**], X., **Wang, C**. and Z. Li, 2018. A Near Real-Time Flood Mapping Approach by Integrating Social Media and post-event Satellite Imagery. *Annuals of GIS*, 24(2): 113-123.

Zhang L., **Wang C.,** Yang H, Zhang B, and Zheng Y., 2017. Phenological metrics dataset, land cover types map for the Tibetan Plateau and grassland biomass dataset for Qinghai Lake Basin. *China Scientific Data*, 2 (2). DOI: 10.11922/csdata.170.2017.0132

Wang C, Guo, H., Zhang L, Liu S., Qiu, Y., and Sun, Z., 2017. Phenological metrics dataset of alpine grasslands over the Tibetan Plateau (2000 – 2010). *Science Data Bank.* DOI: 10.11922/sciencedb.397 (in Chinese)

Wang C, Guo, H., Zhang L, Qiu Y, Sun, Z., Liao, J., Liu, G. and Zhang, Y. 2017. Land cover map for Tibetan Plateau. *Science Data Bank.* DOI: 10.11922/sciencedb.398 (in Chinese)

Fan[**], Q., **C. Wang*,** D. Zhang and S. Zang, 2017. Environmental influences on forest fire regime in the Greater Hinggan Mountains, Northeast China. Forests, 8,372. doi:10.3390/f8100372

Sun, Z., C. **Wang*,** H. Guo and R. Shang, 2017. A modified normalized difference impervious surface index (MNDISI) for automatic urban mapping from Landsat imagery. Remote Sensing, 9:942. doi:10.3390/rs9090942.

Miller, G., J., J. T. Morris and **C. Wang**, 2017. Mapping salt marsh dieback and condition in South Carolina's North Inlet-Winyah Bay National Estuarine Research Reserve using remote sensing. *AIMS Environmental Science*, 4(5): 677-689

Wang[**], J., C. **Wang***, and S. Zhang, 2017. Assessing re-composition of Xing'an larch in boreal forests after the 1987 fire, Northeast China. *Remote Sensing*, 9: 504. doi:10.3390/rs9050504.

Li[**], H., **C. Wang***, L. Zhang, X. Li, and S. Zang, 2017. Satellite monitoring of boreal forest phenology and its climatic responses in Eurasia. *International Journal of Remote Sensing*, 38:19, 5446-5463. (1st author as MS advisee)

Li, H., **C. Wang**, C. Zhong, Z. Zhang, and Q. Liu, 2017. Mapping typical urban LULC from Landsat imagery without training samples or self-defined parameters. *Remote Sensing*, 9:700.

Li, H., C. Wang, C. Zhong, A. Su, C. Xiong, J. Wang, and J. Liu, 2017. Mapping urban bare land automatically from Landsat imagery with a simple index. *Remote Sensing*, 9*:* 249. doi:10.3390/rs9030249.

Li, Z., **C. Wang,** C. T. Emrich, D. Guo, 2017. A novel approach to leveraging social media for rapid flood mapping: a case study of the 2015 South Carolina Floods. *Cartography and Geographic Information Sciences*. 45(2): 97-110.

Wang, C., Q. Fan, Q. Li, W. M. SooHoo, and L. Lu, 2017. Energy crop mapping with enhanced TM/MODIS time series in the BCAP agricultural lands. *ISPRS Journal of Photogrammetry and Remote Sensing,* 124: 133-143.

SooHoo[**], W. M., **C. Wang***, and H. Li, 2017. Geospatial assessment of bioenergy land use and its impacts on soil erosion in the U.S. Midwest. *Journal of Environment Management*, 190:188-196. (1st author as MS advisee)

Zhang, Y., B. Yang, X. Liu, and **C. Wang**, 2017. Estimation of rice grain yield from dual-polarization Radarsat-2 SAR data by integrating a rice canopy scattering model and a genetic algorithm. *International Journal of Applied Earth Observation and Geoinformation*, 57:75-85.

Wang, C. (Invited Review Article), 2016. A remote sensing perspective of alpine grasslands on the Tibetan Plateau: better or worse under Tibet Warming? *Remote Sensing Applications: Society and Environment.* 3: 36-44.

Li[**], H., **C. Wang**, Y. Jiang, A. Hug and Y. Li, 2016. Spatial assessment of sewage discharge with urbanization in 2004-2014, Beijing, China. *AIMS Environmental Science*, 3(4): 842-857. (1st author as PhD advisee)

Bai, L., **C. Wang**, S. Zang, Y. Zhang, Q. Hao, and Y. Wu, 2016. Remote Sensing of soil alkalinity and salinity in the Wuyu'er Shuangyang River Basin, Northeast China. *Remote Sensing*, 8(2): 163. doi:10.3390/rs8020163

Li, Q., **C. Wang,** B. Zhang and L. Lu, 2015. Object-based crop classification with Landsat-MODIS enhanced time-series data. *Remote Sensing*, 7(12): 16091-16107.

Li, Q., L. Lu, **C. Wang**, Y. Li, Y. Sui and H. Guo, 2015. MODIS-derived spatiotemporal changes of major lake surface areas in arid Xinjiang, China, 2000-2014. *Water*, 7:5731-5751.

Deng, L. Y. Yan, and **C. Wang,** 2015. Improved POLSAR image classification by the use of multi-feature combination. *Remote Sensing*, 7 (4), 4157-4177.

Wang, C., H. Guo, L. Zhang, Y. Qiu, Z. Sun, J. Liao, G. Liu, and Y. Zhang, 2015. Improved alpine grassland mapping in the Tibetan Plateau with MODIS time series: a phenology perspective. *International Journal of Digital Earth*. 8(2), 133-152.

Wang, K., L. Zhang, Y. Qiu, L. Ji, F. Tian, **C. Wang**, and Z. Wang, 2015. Snow effects on alpine vegetation in the Qinghai-Tibetan Plateau. *International Journal of Digital Earth*. 8 (1):58-75.

Zhong[**], C., C. **Wang*,** and C. Wu, 2015. MODIS-based fractional crop mapping in the U.S. Midwest with spatially constrained phenological mixture analysis. *Remote Sensing*, *7*(1): 512-529. (1st author is PhD advisee)

Lu, L., C. Kuenzer, **C. Wang,** H. Guo, Q. Li, 2015. Evaluation of Three MODIS-Derived Vegetation Index Time Series for Dryland Vegetation Dynamics Monitoring. *Remote Sens*. 2015, 7, 7597-7614.

Wang, C., H. Guo, L. Zhang, S. Liu, Y. Qiu and Z. Sun, 2015. Assessing phenological change and climatic control of alpine grasslands in the Tibetan Plateau with MODIS time series. *International Journal of Biometeorology*. 49 (1): 11-23.

Wang, C., Zhong, C., Yang, Z., 2014. Assessing bioenergy-driven agricultural land use change and biomass quantities in the U.S. Midwest with MODIS time series. *J. Appl. Remote Sens.* 8 (1), 085198. doi:10.1117/1.JRS.8.085198.

Deng, L. **and C. Wang**, 2014. Improved Building Extraction With Integrated Decomposition of Time-Frequency and Entropy-Alpha Using Polarimetric SAR Data. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 7(10): 4058-4068.

Zhang, Y., Z. Liu, S. Su, and **C. Wang,** 2014. Retrieving canopy height and density of paddy rice from Radarsat-2 images with a canopy scattering model. *International Journal of Applied Earth Observations and Geoinformation*, 28:170-180.

Yuan, F., **C. Wang** and M. Mitchell, 2014. Spatial patterns of land surface phenology relative to monthly climate variations: US Great plains. *GIScience and Remote Sensing*, 51(1):30-50.

Kong, F., H. Yin, **C. Wang**, G. Cavan, and P. James, 2014. A satellite image-based analysis of factors contributing to the green-space cool island intensity on a city scale. *Urban Forestry and Urban Greening*, 13:846-853.

Inoue Y., Sakaiya E., **Wang C**. 2014. Potential of X-band images from high-resolution satellite SAR sensors to assess growth and yield in paddy rice. *Remote Sensing*, 6(7):5995-6019.

Inoue Y., Sakaiya E., **Wang C**. 2014. Capability of C-band backscattering coefficients from high-resolution satellite SAR sensors to assess biophysical variables in paddy rice, *Remote Sensing of Environment*, 140:257-266.

Zhang, L., H. Guo, **C. Wang**, L. Ji, J. Li, K. Wang, and L. Dai, 2014. The long-term trends (1982-2006) in vegetation greenness of the alpine ecosystem in the Qinghai-Tibetan Plateau. *Environmental Earth Sciences*, 72:1827-1841.

Lu, L., **C. Wang**, H. Guo and Q. Li, 2014. Detecting winter wheat phenology with SPOT-VEGETATION data in the North China Plain. *Geocarto International*. 29(3): 244-255.

Lu, L., H. Guo, **C. Wang**, M. Pesaresi, and D. Ehrlich, 2014. Monitoring bidecadal development of urban agglomeration with remote sensing images in the Jing-Jin-Tang area, China. *Journal of Applied Remote Sensing*, 8 (084592) 1-12.

Guo, H., H. Yang, Z. Sun, Z. Li, and **C. Wang**, 2014. Synergistic use of optical and PolSAR image for urban impervious surface estimation. *Photogrammetric Engineering and Remote Sensing*, 80(1): 91-102.

Wang, **C**., E. R. Hunt, L. Zhang, and H. Guo, 2013. Spatial distributions of C_3 and C_4 grass functional types in the U.S. Great Plains and their dependency on inter-annual climate variability. *Remote Sensing of Environment.* 128:90-101.

Lu, L., H. Guo, **C. Wang** and Q. Li, 2013. Assessment of the Sea Winds Scatterometer for vegetation phenology monitoring across China. *International Journal of Remote Sensing*, 34: 5551-5568.

Zhang, L., H. Guo, L. Ji, L. Lei, **C. Wang**, D. Yan, B. Li and J. Li, 2013. Vegetation greenness trend (2000 to 2009) and the climate controls in the Qinghai-Tibetan Plateau. *Journal of Applied Remote Sensing*, 7:1-17.

Bentivegna, D. J., R. J. Smeda, and **C. Wang**, 2012. Detecting cutleaf teasel (*Dipsacus laciniatus*) along a Missouri highway with hyperspectral imagery. *Invasive Plant Science and Management*, 5:155-163.

Wang, C., Fritschi, F. B., Stacey, G., and Yang, Z., 2011. Phenolgoy-based assessment of energy crops in North American Tallgrass Prairie. *Annuals of American Association of Geographers*. 101(4): 742-751.

Zhang, Y., **Wang, C**., and Zhang, Q., 2011. Identifying paddy fields with dual-polarization ALOS/PALSAR data. *Canadian Journal of Remote Sensing*, 37(1): 103-111.

Wang, C., Jamison, B., and Spicci A, 2010. Trajectory-based warm season grass mapping in Missouri prairies with multi-temporal ASTER imagery. *Remote Sensing of Environment*. 114:531-539.

Wang, C., D. J. Bentivegna, R. J. Smeda, and R. E. Swanigan, 2010**.** Comparing multispectral and hyperspectral classifiers for mapping cut-leaved teasel in

highway environments, *Photogrammetric Engineering and Remote Sensing*, 76:567-575.

Li, Y. and **C. Wang**, 2009. Impacts of urbanization on surface runoff of the Dardenne Creek Watershed, St. Charles County, Missouri, *Professional Geographer*, 30 (6): 556-573.

Zhang Y., **C. Wang***, J. Wu, J. Qi and W. A. Salas, 2009, Mapping Paddy Rice with Multi-temporal ALOS PALSAR Imagery in Southeast China. *International Journal of Remote Sensing*. 23 (10): 6301-6315. (*corresponding author)

Wang, C., J. Wu, Y. Zhang, G. Pan, J. Qi and W. A. Salas, 2009. Characterizing L-band scattering of paddy rice in southeast China with Radiative Transfer Model and multitemporal ALOS/PALSAR imagery. *IEEE Transactions on Geoscience and Remote Sensing*. 47 (4): 988-998.

Wang, C., H. S. He, and J. M. Kabrick, 2008. A risk rating study to predict oak decline and recovery in the Missouri Ozark Highlands, USA. *GIScience and Remote Sensing*, 45 (4): 406 – 425.

Wang, C. and J. Qi, 2008. Biophysical estimation in tropical forests using JERS-1 VNIR and SAR imagery: I - leaf area index. *International Journal of Remote Sensing*, 29 (23), 6811 – 6826.

Wang, C. and J. Qi, 2008. Biophysical estimation in tropical forests using JERS-1 SAR and VNIR Imagery: II- aboveground woody biomass. *International Journal of Remote Sensing*, 29 (23): 6827 – 6849.

Wang, C., B. Zhou, and H. L. Palm, 2008. Detecting invasive Sericea Lespedeza (Lespedeza cuneata) in Mid-Missouri pastureland using hyperspectral imagery, *Environment Management*, 41(6): 853-862.

Wang, C., Z. Lu, and T. L. Haithcoat, 2007. Using Landsat images to detecting forest dynamics responding to oak dieback in the Mark Twain National Forest, Missouri. *Forest Ecology and Management*, 240(1-3): 70-78.

Wang, C., J. Qi and M. Cochrane, 2005. Assessment of Tropical Forest Degradation with Canopy Fractional Cover from Landsat ETM+ and IKONOS Imagery. *Earth Interactions*, 9(22): 1-18.

Wang, C., J. Qi, M. S. Moran, and R. Marsett 2004. Soil Moisture Estimation in Semi-arid Rangeland Using ERS-2 and TM imagery, *Remote Sensing Environment*, 90(2), 178-189.

Qi, J., and **C. Wang.** 2004. A Microwave/Optical Canopy Scattering Model and its Application in Tropical forests. *Chinese Journal of Radio Science*, 19(4): 409-417. (in Chinese)

Qi, J., **C. Wang**, Y. Inoue, R. Zhang, W. Gao, and G. Cao, 2004. Synergy of optical and radar remote sensing in agricultural applications. *Chinese Journal of Radio Science*, 19(4): 399-404. (in Chinese)

Shao Y., J. Liao, and **C. Wang**, 2002. Analysis of temporal radar backscatter of rice: a comparison of SAR observations with modeling results. *Canadian Journal of Remote Sensing*: 28(2): 128-138.

Wang, C. and H. Guo, 2000. Applications of radar polarimetric decomposition in geological classification. *Chinese Journal of Remote Sensing*: 4(3):219-223 (in Chinese).

SYNERGISTIC ACTIVITIES

Services in professional societies:

International Association of Chinese Professionals in GISc (CPGIS):
President (2020-2021); President Elect, Treasurer (2019-2020); BOD member (2013-2015); Election Committee member (2015);

South Carolina Interagency Drone Users Consortium (SCiDUC):
Board of Directories (BOD), (2019-); Research Committee, Co-Chair, (2019-)

International Society of Digital Earth (ISDE)
Council Member (2019-2021); Education and Capacity Development Working Group, member (2020-2021)

Digital Belt and Road (DBAR) Science Program
Coastal Zone Work Group, member; ICOE of Big Earth Data on Coasts: Director

American Society of Photogrammetry and Remote Sensing (ASPRS)
State Representative (2019)

Southeast Division of AAG (SEDAAG):
SC Representative (2017-2019)

AAG Remote Sensing Specialty Program:
Secretary/Treasurer (2015-17); Award Committee member (2014-16);

University Consortium of Geographic Information Science (UCGIS):
USC delegate (2015-2017); Award Committee member (2016); Education Committee member (2016-2017);

U.S. Geospatial Intelligence Foundation (USGIF):
Director of the GEOINT Certificate at USC (2015-2018; 2022-); Co-Director (2018 - 2021); GEOINTegration Award Committee (2020); Subject Matter Expert (SME) in Remote Sensing/Image Analysis

Editorial services:

Papers in Applied Geography: Associate Editor (2018-2022)
International Journal of Biometeorology (IJBM): Editorial Advisory Board (2014-)
International Journal of Digital Earth (IJDE): International Editorial Board (2014-)
Chinese Geography Sciences (CGS): Editorial Board (2021-)
USGIF State & Future of GEOINT Report, 2017: Editorial Review Board (2017)
Guest Editors (Special Issues):

Remote Sensing: "Big Earth Data and Remote Sensing in Coastal environments", Closed on March 31, 2022 (Guest Editors: **Wang**, Zhang, Mishra). ***IEEE Journal of Selected Topics in***

Applied Earth Observations and Remote Sensing*:* "Multisource remote sensing applications in sustainable urbanization: advances and challenges." Closed on June 30, 2021 (Guest Editors: Zhang, Wu, **Wang**, Marinoni). ***Remote Sensing***: Application of Remote Sensing in Hydrological Modeling and watershed Management", July 1, 2017 – Dec.30, 2018. ***Big Earth Data***: :Big Earth Data Analytics", March 31, 2020

Services in international conferences:

The 28th International Conference on Geoinformatics, November 1-3, 2021. Nanchang, China, (Conference Program Committee, Chair; Conference Paper Review Committee, Member). *The 12th International Symposium of Digital Earth*, July 6-8, 2021, Salzburg, Austria (ISDE Programme Committee; Conference Paper Review Committee). *The 2020 GEOINTegration Summit* (online), USGIF, September 28-29, 2020 (Planning Committee). *The 4th Conference of Digital Belt and Road (DBAR)*, Dec. 16-18, 2019. Shenzhen, China (Scientific Committee). *The 3rd Conference of Digital Belt and Road (DBAR)*, Dec. 3-7, 2018. Tengchong, China (Scientific Committee); *The 2nd Conference of Digital Belt and Road (DBAR)*, Dec. 4-8, 2017. Hongkong, China (Organization Committee). *Agro-GeoInformatics Conference* (2014, 2016), Beijing, China (Scientific Committee). *International Symposium on Earth Observation for Maritime Silk Road (2015)*, Sanya, China (Organization Committee). *Environmental Health and Pollution Control, the 4th International Workshop*, 2012. Harbin, China (Organizing Committee)

Affiliated positions:

Baruch Institute at USC (Faculty Associate, 2017 -); Harbin Normal University, China (Adjunct Professor, 2013-); Institute of Remote Sensing and Digital Earth, CAS, China (Adjunct Professor, 2007- 2018)